

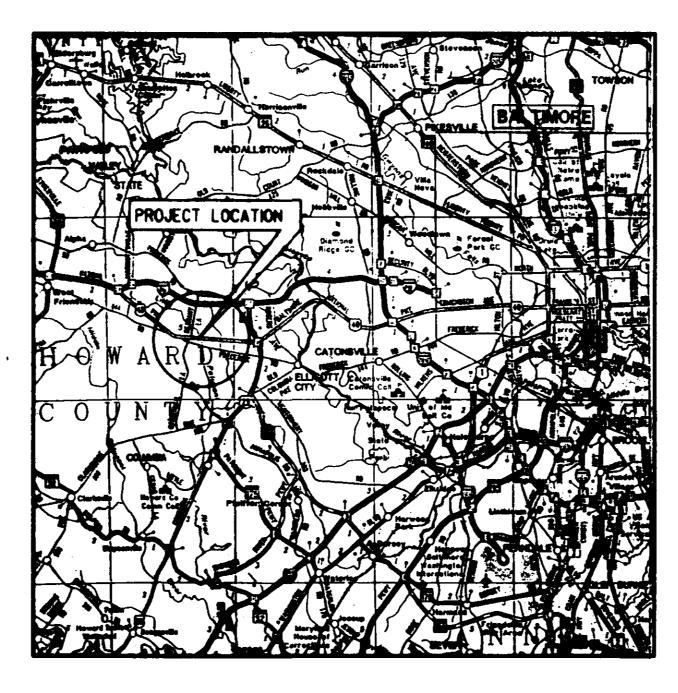
★ HOWARD COUNTY CONTROL STATION LOCATED 0.10 MILE +/- EAST OF BETHANY LANE. LOCALITY: ENCHANTED FOREST SHOPPING CENTER. MARK IS A: CONCRETE MONUMENT. DATE SET: 6/92 STATION: 24AA STAMPED: 24AA

SOUTHERN STATES COOPERATIVE

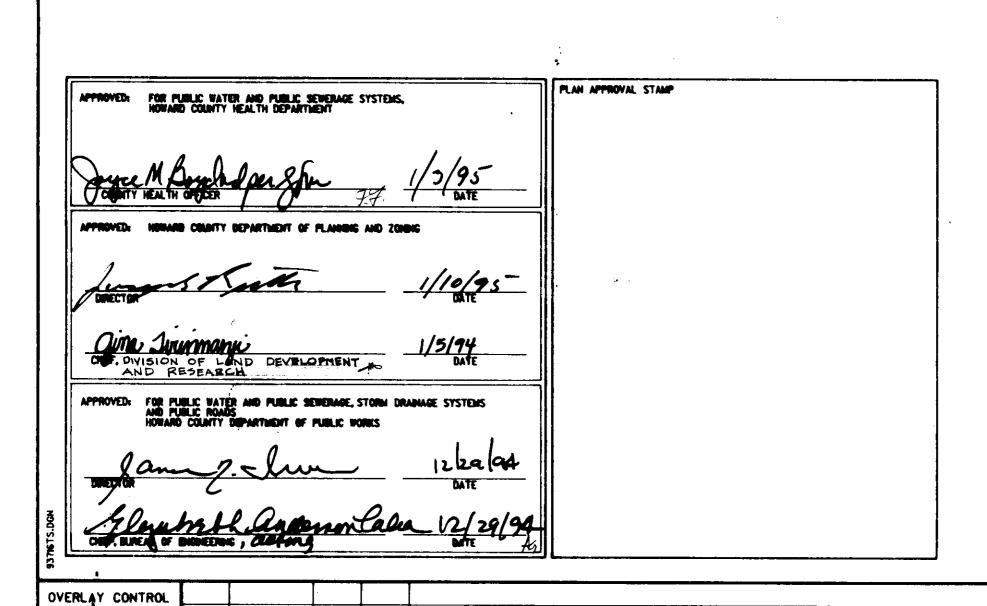
HOWARD COUNTY PETROLEUM SERVICE

FUEL FACILITY

ELLICOTT CITY, MARYLAND







DESCRIPTION

REV. DATE BY APP.



Wiley & Wilson ARCHITECTS ENGINEERS PLANNING

6620 W. Broad Street Road Suite 250 Richmond, Virginia 23230 (804 282-5417



PERMIT INFORMATION BLOCK					
Property Name SOUTHERN STATES			Section/Area N/A		Parcel® 67
L/F MWB 198/226	Block •	Zone B-2	Tax/Zone Map	Elec. Dist. 2 <u>nd</u>	Census Tract
Water Code FI4			Sewer Code 5440000		

ADDRESS CHART					
Lot Number Street Address					
PARCEL 67	10065 BALTIMORE NATIONAL PIKE (U.S. ROUTE 40)				

OWNER: SOUTHERN STATES PETROLEUM COOPERATIVE, INC.
P. O. BOX 26234
RICHMOND, VIRGINIA 23260

BA CASE NO. 93-32E SDP-94-88

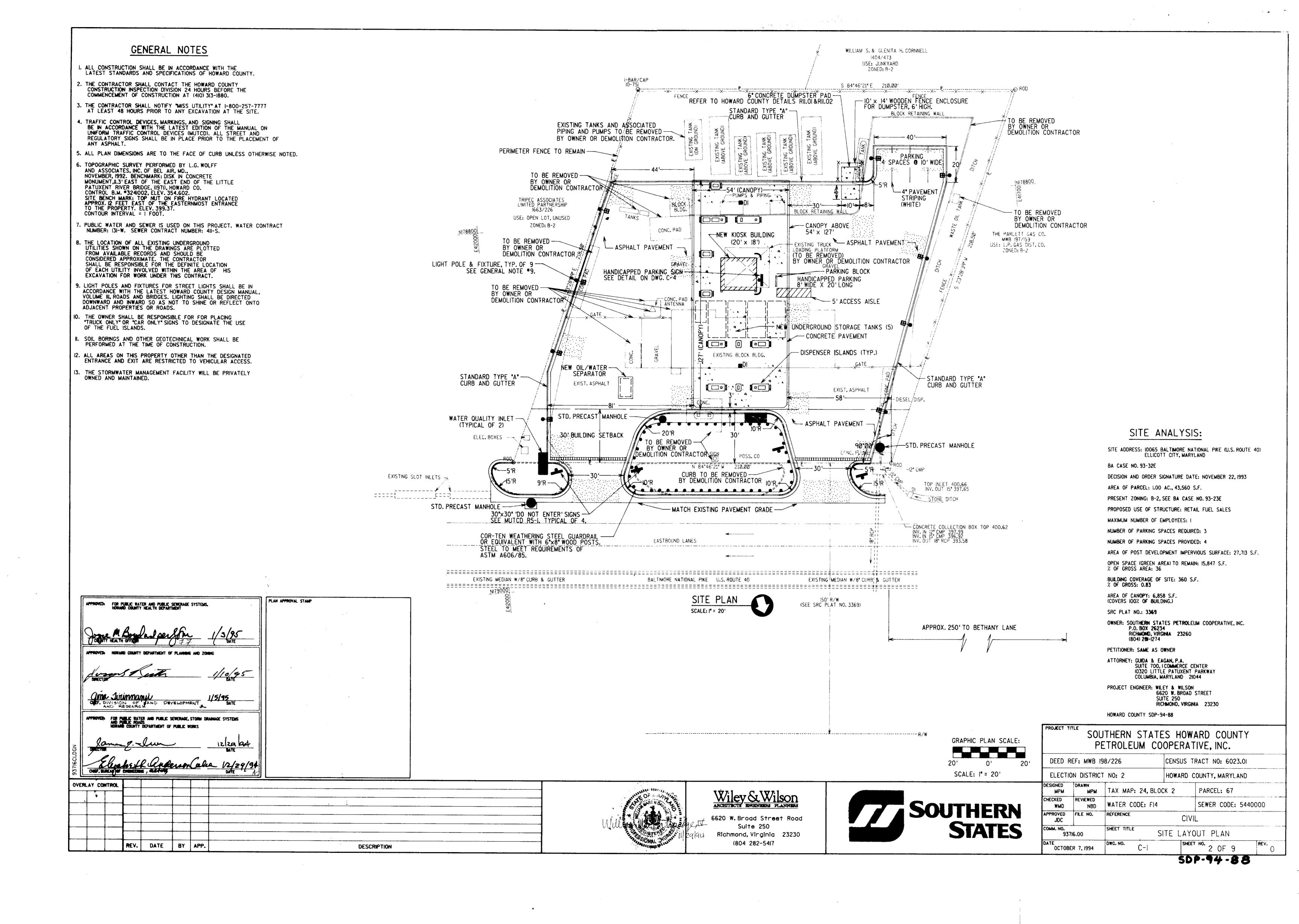
		DRAWING TITLE INDEX		
SHEET	DWG.	TITLE		
Ī	TS-I	TITLE SHEET		
2	C-I	SITE LAYOUT PLAN		
3	C-2	GRADING/UTILITIES PLAN		
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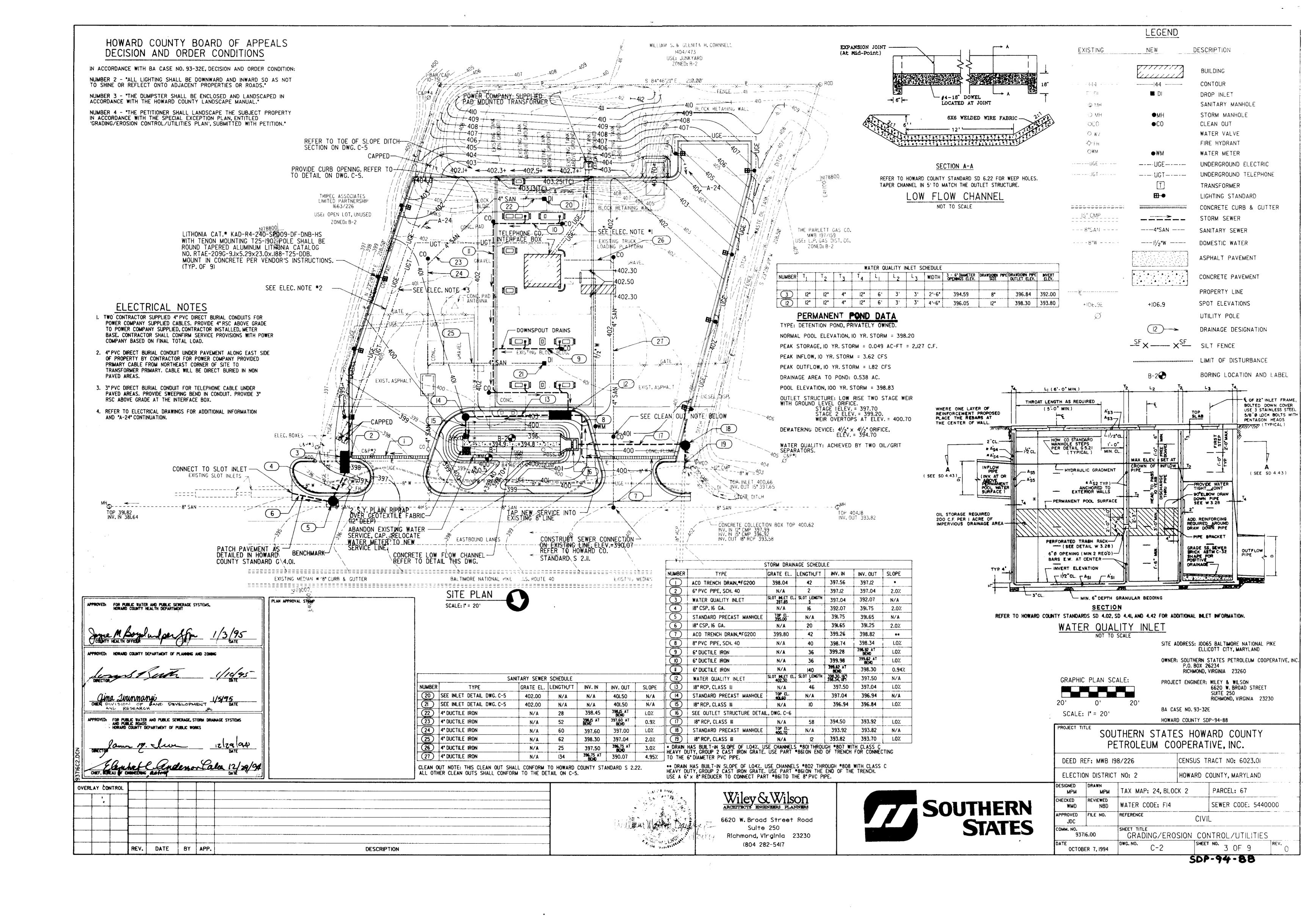
	SOUTHERN STATES HOWARD COUNTY PETROLEUM COOPERATIVE, INC.					
DEED F	REF: MWB I	98/226	CENSUS TRACT NO: 6023.01 HOWARD COUNTY, MARYLAND			
ELECTI	ON DISTRIC	T NO: 2				
DESIGNED W&W	DRAWN MPM	TAX MAP: 24, BLO	CK 2	PARCEL: 67		
CHECKED W&W	REVIEWED NBD	WATER CODE: F14		SEWER CODE: 5440000		
APPROVED JDC				-1		
1			· · · · · · · · · · · · · · · · · · ·			

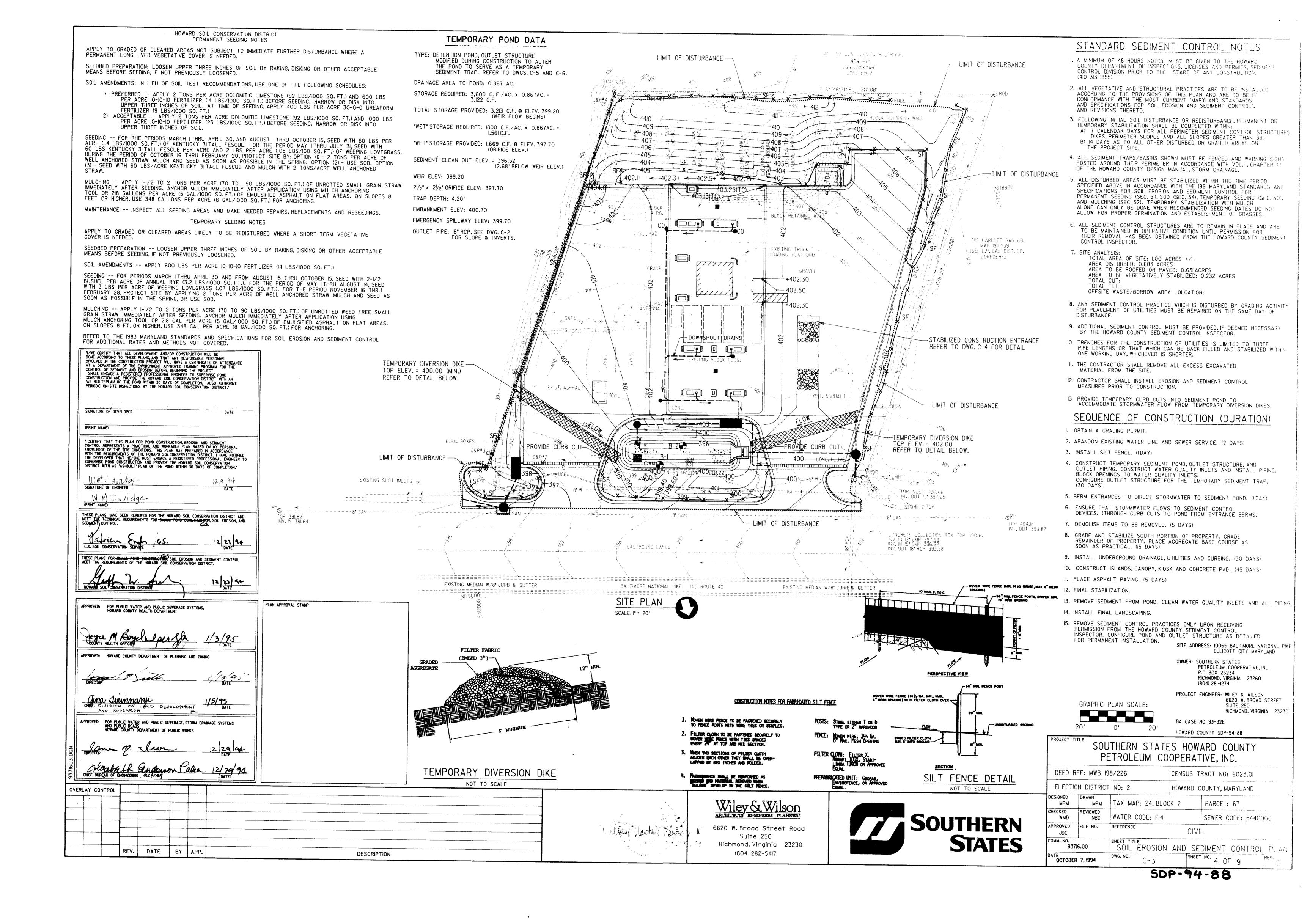
DATE OCTOBER 7, 1994

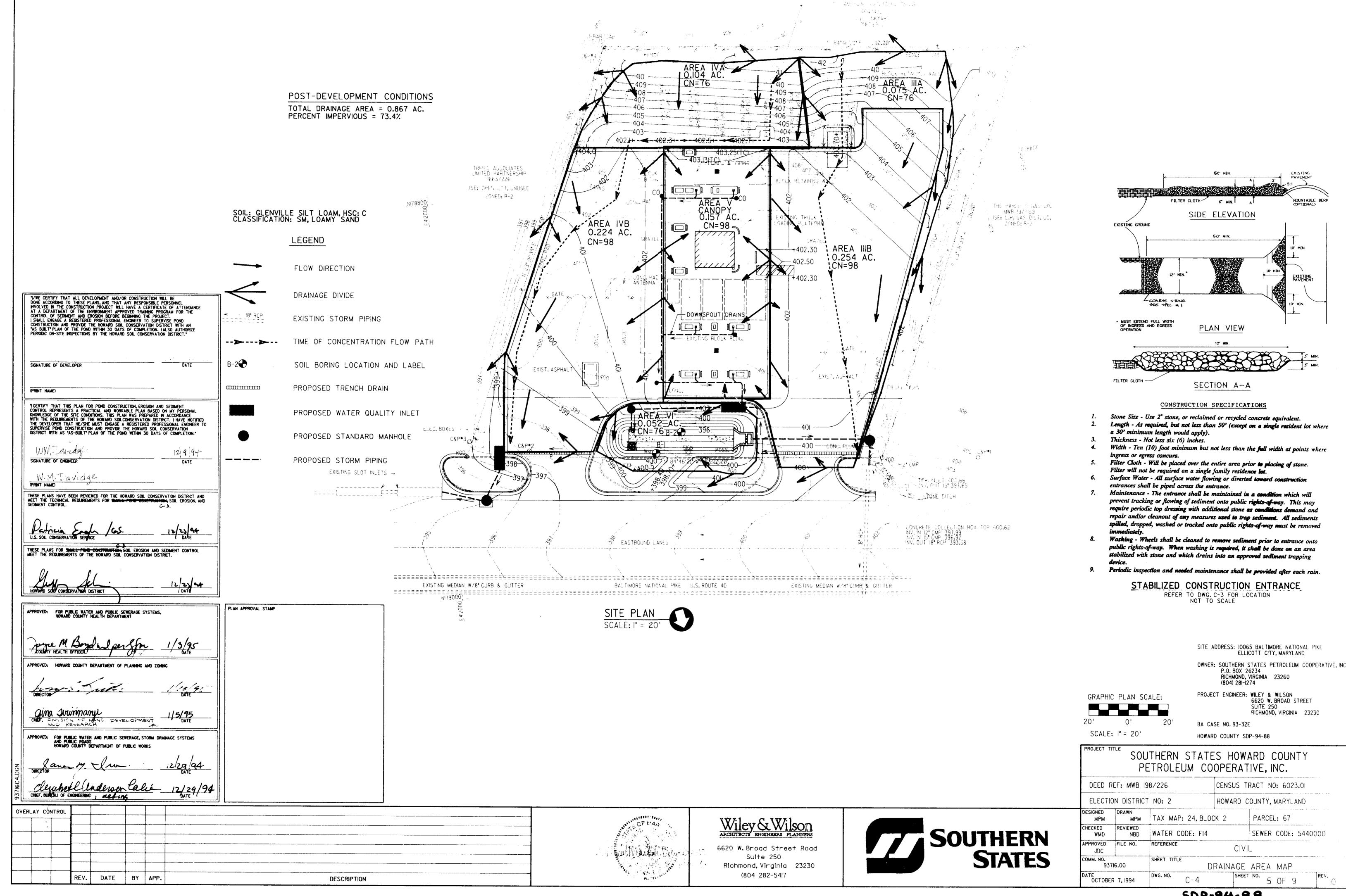
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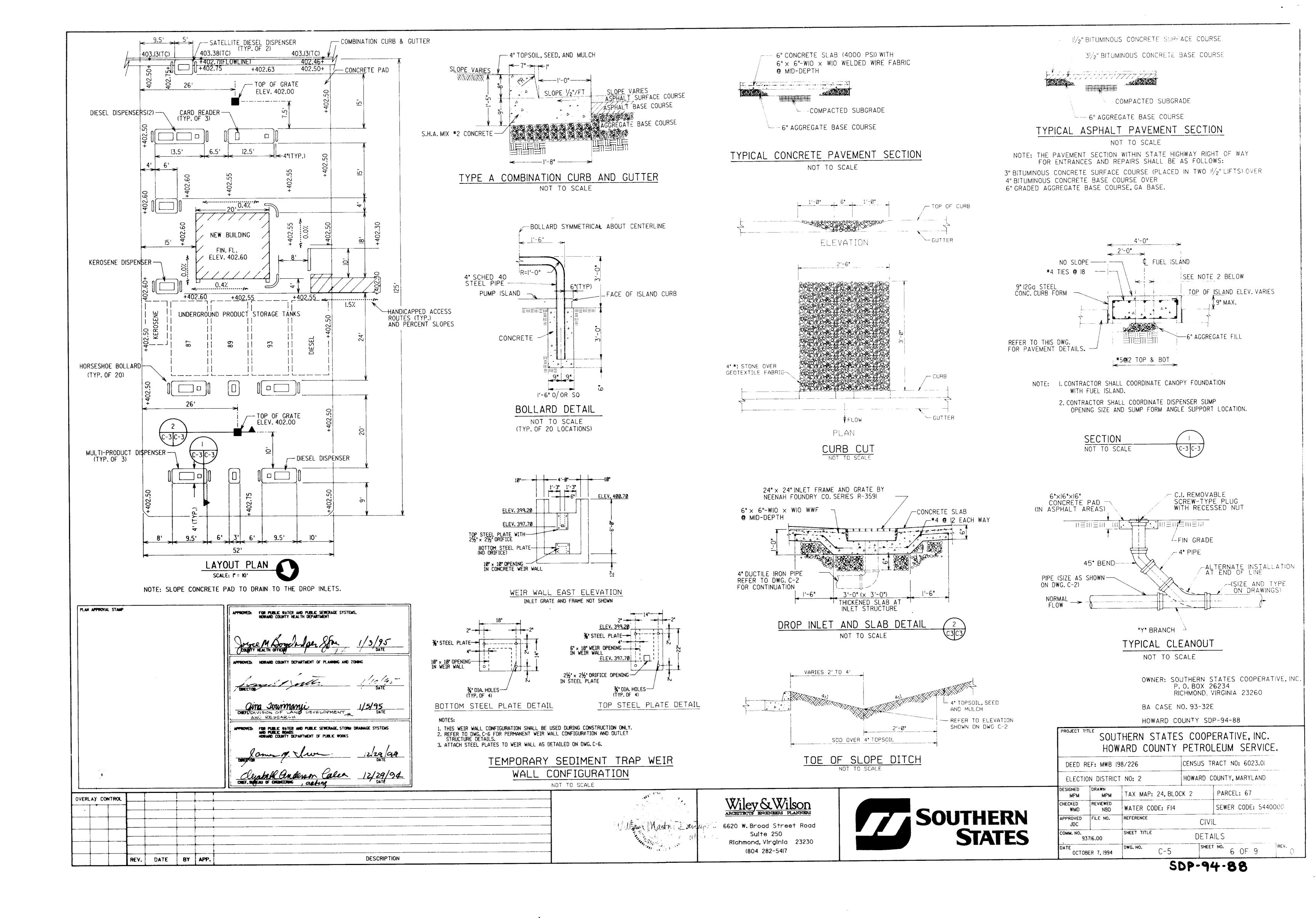
TITLE SHEET

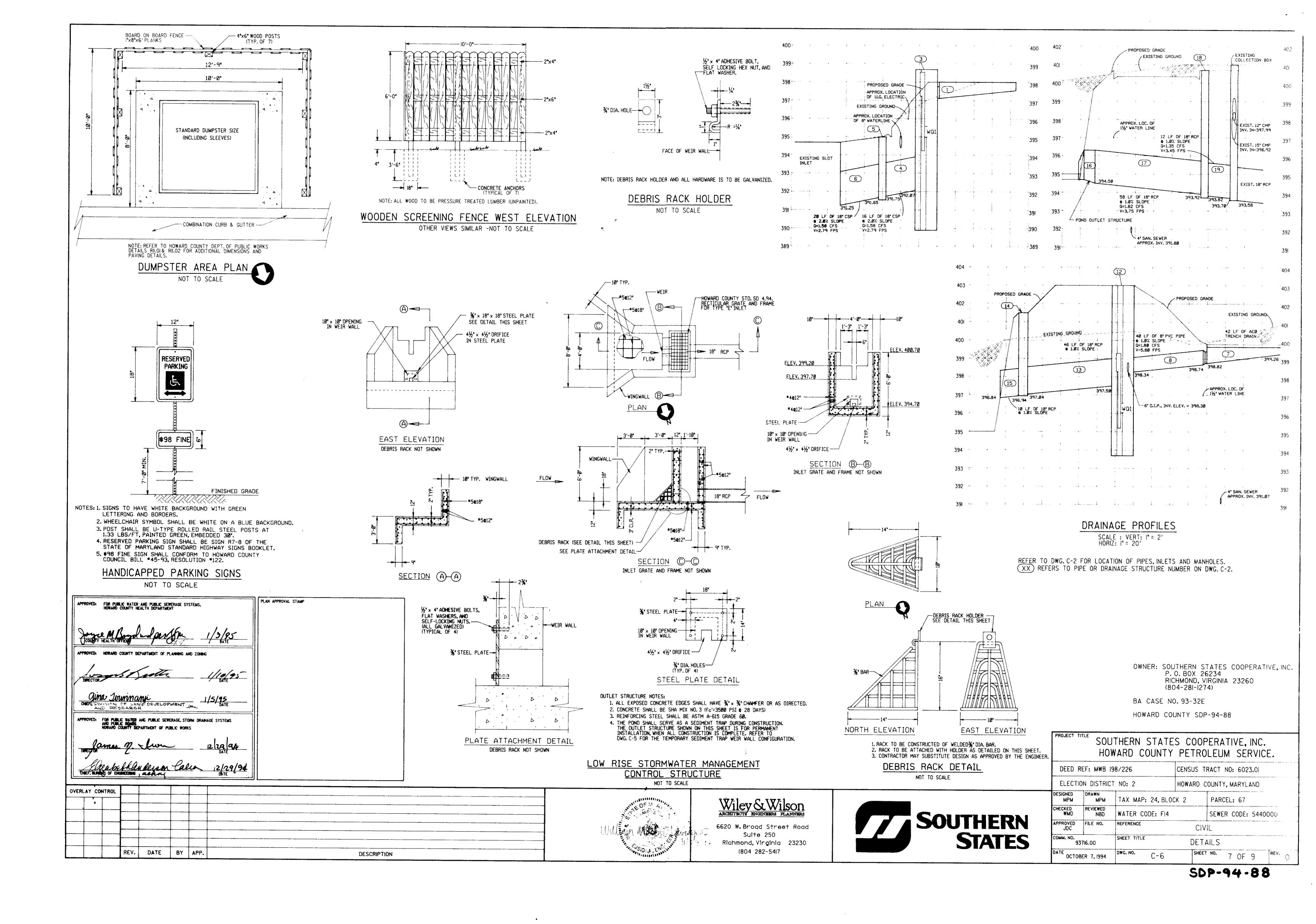












THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378, ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL, ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES. BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS, TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE, FOR DRY STORMWATER MANAGEMENT PONDS. A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEANED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS, IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH. STONES GREATER THAN 6', FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL, FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT, THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SOUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +2% OF THE OPTIMUM, EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION, ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLAN, THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

STRUCTURE BACKFILL

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT

Juma Juurmanji

AND RESEARCH

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT, THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE, UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- 1. MATERIALS REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
- 2. BEDDING ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 10% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
- 3. LAYING PIPE BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM, JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL, AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
- 4. BACKFILLING SHALL CONFORM TO 'STRUCTURE BACKFILL.'
- 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION. STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 608, MIX NO. 3.

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALL ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION. STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.

CARE OF WATER DURING CONSTRUCTION

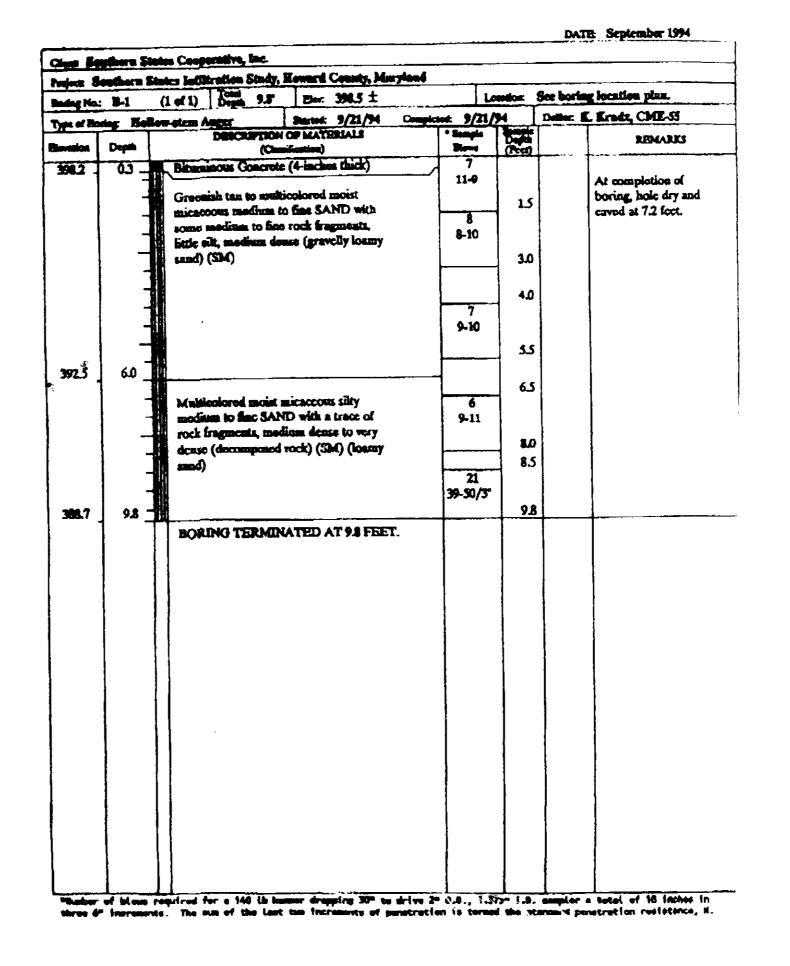
ALL WORK ON PERMANENT STRUCTURE SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS, THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS, DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

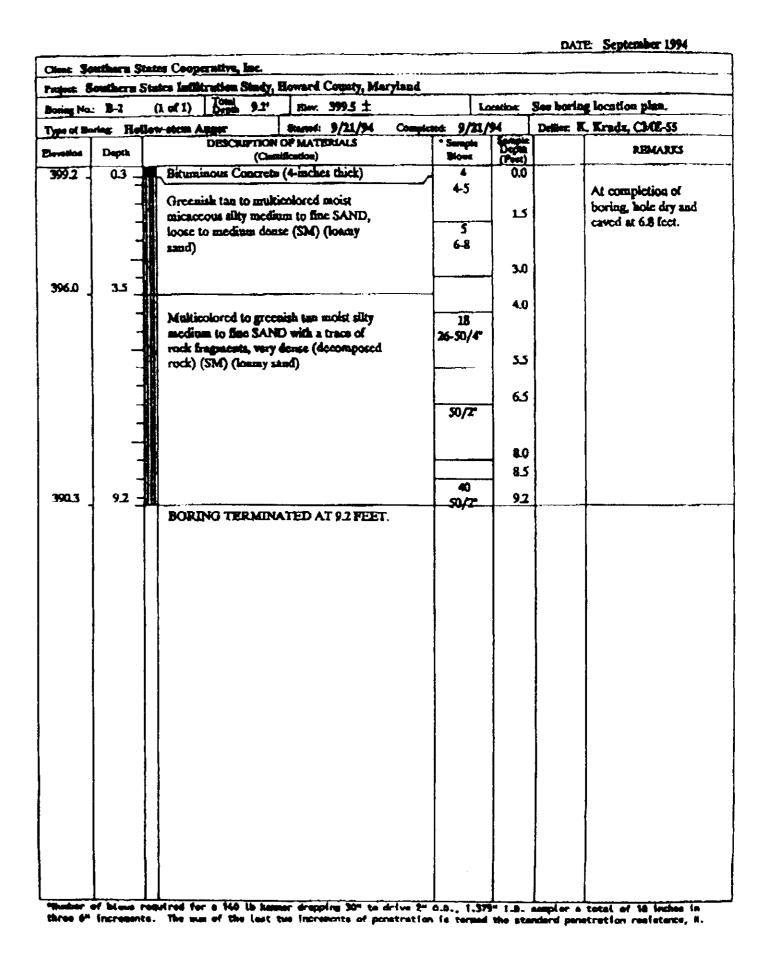
STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION, ALL EXPOSED SURFACES OF THE EMBANKMENT. SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICES STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED, CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.





MINIMUM INFILTRATION RATE (IN/HR)	BEARING CAPACITY
2.41	2,500 PSF

WATER QUALITY INLET MAINTENANCE SCHEDULE

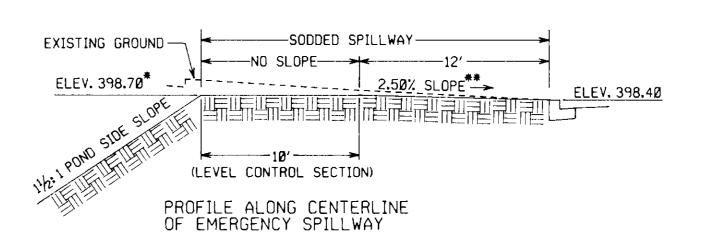
UPON COMPLETION OF CONSTRUCTION AND WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED FROM THE SITE. THE WATER QUALITY INLETS SHALL BE CLEANED OF TRAPPED SEDIMENTS, OILS, AND COLLECTED DEBRIS. THEREAFTER, CLEANING AND INSPECTION OF THE WATER QUALITY INLETS SHALL OCCUR EVERY SIX MONTHS. ALL FEATURES OF THE WATER QUALITY INLET AND ITS ASSOCIATED PIPING SHALL BE INSPECTED TO ENSURE THAT THE STRUCTURE IS FUNCTIONING PROPERLY AND REPAIRED IF NECESSARY.

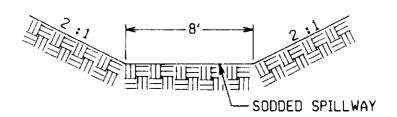
THE CLEANING AND INSPECTING OF THE WATER QUALITY INLETS SHALL BE PERFORMED BY QUALIFIED PERSONNEL. OILS, SEDIMENTS, AND OTHER COLLECTED DEBRIS SHALL BE EXTRACTED (PUMPED) FORM THE WATER QUALITY INLETS AND DISPOSED OF PROPERLY. THE WATER QUALITY INLETS SHALL NEVER BE FLUSHED WITH WATER, AS THIS MAY ALLOW THE TRAPPED POLLUTANTS TO ENTER THE STORM SEWER SYSTEM.

DETENTION POND MAINTENANCE SCHEDULE

UPON COMPLETION OF CONSTRUCTION AND WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED FROM THE SITE, THE POND SHALL BE CLEANED OF TRAPPED SEDIMENTS AND DEBRIS. THEREAFTER, CLEANING AND INSPECTION OF THE POND SHALL OCCUR ONCE PER YEAR. THE POND SIDE SLOPES, RIPRAP, LOW FLOW CHANNEL WING WALLS, WEIR WALL, OUTLET DRIFICE, DEBRIS RACK AND OTHER MAJOR COMPONENTS OF THE OUTLET STRUCTURE SHALL BE INSPECTED TO ENSURE THAT THE FACILITY IS FUNCTIONING PROPERLY AND REPAIRED

SEDIMENTS AND OTHER COLLECTED DEBRIS SHALL BE EXTRACTED (EXCAVATED) FROM THE POND AND DISPOSED OF PROPERLY. THE POND SHALL NOT BE CLEANED BY FLUSHING WITH WATER AS THIS MAY ALLOW THE TRAPPED POLLUTANTS TO ENTER THE STORM SEWER SYSTEM.





CROSS SECTION OF EMERGENCY SPILLWAY

 st THIS ELEVATION APPLIES TO THE PERMANENT DRAINAGE STRUCTURE. THE ELEVATION FOR THE TEMPORARY SEDIMENT TRAP EMERGENCY SPILLWAY (DURING CONSTRUCTION ONLY) IS 399.60.

**THIS SLOPE APPLIES TO THE PERMANENT DRAINAGE STRUCTURE.
THE SLOPE FOR THE TEMPORARY SEDIMENT TRAP EMERGENCY SPILLWAY (DURING CONSTRUCTION ONLY) IS 10.0%.

EMERGENCY SPILLWAY FLOW RATE AND VELOCITY PERMANENT DRAINAGE STRUCTURE: Q=1.04 CFS, V=1.27 FPS TEMPORARY SEDIMENT TRAP: Q=2.08 CFS, V=2.54 FPS OWNER: SOUTHERN STATES COOPERATIVE, INC. P. O. BOX 26234 RICHMOND, VIRGINIA 23260 (804-281-1274)

BA CASE NO. 93-32E HOWARD COUNTY SDP-94-88

SOUTHERN STATES COOPERATIVE, INC.

HOWARD COUNTY PETROLEUM SERVICE

EMERGENCY SPILLWAY DETAILS FOR DETENTION POND AND TEMPORARY SEDIMENT TRAP

NOT TO SCALE

DEED REF: MWB 198/226			CENSUS TRACT NO: 6023.01		
ELECTION	ON DISTRIC	T NO: 2	HOWARD COUNTY, MARYLAND		
DESIGNED MPM	DRAWN MPM	TAX MAP: 24, BLOCK 2		PARCEL: 67	
CHECKED WMD	REVIEWED NBD	WATER CODE: FI4		SEWER CODE: 5440000	
APPROVED JDC	FILE NO.	REFERENCE CIVIL			
COMM. NO. 93716.00		SHEET TITLE	DETAILS		

DATE OCTOBER 7, 1994

Richmond, Virginia 23230 (804 282-54)7

<u> Wiley & Wilson</u> ARCHITECTS ENGINEERS PLANNERS 6620 W. Broad Street Road Suite 250

OVERLAY CONTROL DATE BY APP. DESCRIPTION

PLAN APPROVAL STAMP



8 OF 9

